Aelurostrongylosis in a young kitten in the UK

Letters & Notices

FELINE DISEASE

Aelurostrongylosis in a young kitten in the UK

WE would like to bring to the attention of readers a case of fatal lungworm infection in a very young kitten in the UK.

In December 2018, postmortem lung samples from an 11- to 12-week-old male kitten were submitted for histopathological assessment. The clinical history was of sudden dyspnoea and death. Microscopic examination of the lung revealed numerous metastrongyloid lungworms within the majority of alveolar spaces and smaller airways (Fig 1). Quantitative PCR (CTDS Laboratories) analysis of formalin-fixed paraffin-embedded tissues confirmed the diagnosis of *Aelurostrongylus abstrusus* (with a very low cycle threshold level, ie, extensive infection). The severity of the infection and the young age of the kitten prompted a request for further history.

The kitten was one of six from a feral colony in Wales. The kittens were removed by a rescue charity on 31 October 2018, at approximately six weeks of age, and treated with a single dose of topical fipronil, (S)-methoprene, praziquantel and eprinomectin (Broadline; Boehringer Ingelheim/Merial). None of the kittens was unwell while in the charity's care, but two other kittens developed signs of respiratory disease after rehoming; one of which died. The kitten described here was rehomed on 27 November and died on 11 December.

How this kitten became heavily infected despite treatment with Broadline remains unclear. However, based on reported efficacy of 90.5 per cent for *A abstrusus*,[1] a second treatment with Broadline or another suitable anthelmintic drug after one month is required to guarantee all parasites are killed. Also, it is possible that some larvae were dormant or unresponsive to treatment and that killing all other parasite stages and/or immunosuppression caused by a concurrent infection might have stimulated emergence of these in refugia larvae. This would explain why the worms in the histopathological examination appeared to be nearly the same size (Fig 1).

Our findings also suggest that *A abstrusus* may cause a serious and potentially fatal lungworm burden in kittens at a young age in the UK. This result agrees with a previous report describing pulmonary hypertension associated with lungworm infection in a 10-week-old kitten from The Netherlands.[2] The presence of two litter mates who also displayed respiratory signs (of undetermined cause) might suggest a common source of infection. The potential for vertical transmission from queen to litter is suggested by a study in Italy, which found *Troglostrongylus brevior* lungworm in kittens of less than one month of age.[3] Although this has not been documented in *A abstrusus*, the possibility that kittens in this litter might have acquired infection directly from their mother, through the placenta or via milk, cannot be excluded.

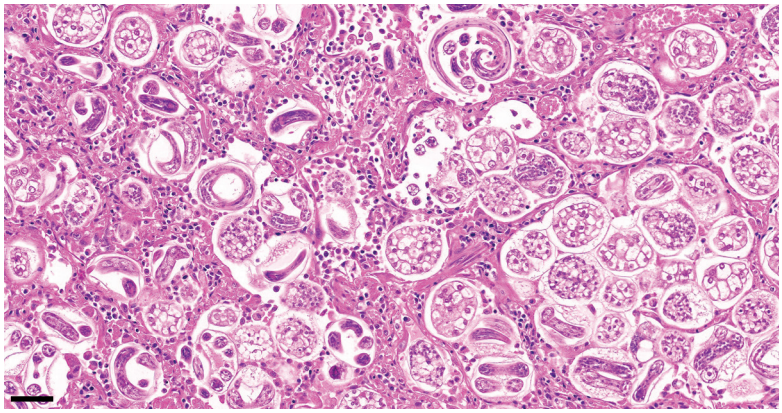

Fig 1: Granulomatous pneumonia with larvae and numerous morulated and embryonated eggs, typical of *Aelurostrongylus abstrusus*, in lung samples from an 11- to 12-week-old kitten. Bar 50 µm

> ***Aelurostrongylus abstrusus* may cause a serious and potentially fatal lungworm burden in kittens at a young age in the UK**

Taken together, these findings suggest that early diagnosis and prompt treatment with repeated doses of an effective licensed product is essential to prevent exacerbation of the lungworm disease in young kittens.

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